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ELEVATED BNP PREDICTS NEW ONSET ATRIAL FIBRILLATION COMPLICATING ACUTE MYOCARDIAL INFARCTION: ANALYSIS OF THE TRIUMPH REGISTRY

ACC Poster Contributions
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Introduction: Atrial fibrillation (AF) is an independent predictor of mortality after acute myocardial infarction (MI). We determined whether biomarkers linked to inflammation [high sensitivity C-reactive protein (hsCRP)] and atrial stretch [NT-pro-brain natriuretic peptide (NT-proBNP)] are associated with new-onset AF at MI hospitalization.

Methods: In a prospective registry of MI (TRIUMPH) from >25 US centers, we measured NT-proBNP and hsCRP in AMI patients without prior AF (N=4123) during hospitalization. New-onset AF was defined as AF during the index hospitalization without a history of AF. Multivariable -adjusted results were analyzed using hierarchical logistic regression models. Due to their skewed distribution, hs-CRP and NT-pro-BNP data were analyzed in quartiles.

Results: New-onset AF was documented in 254 (6.2%) MI patients (mean age 58 years; 33% women). Multivariate analysis with demographics, comorbidities and clinical factors including LVEF and Killip class, high NT-pro-BNP significantly predicted new AF (comparing NT-pro-BNP quartile 4 vs 1, the OR and 95% CI were 2.45; 1.17, 5.24). Hs-CRP was not a predictor of AF (Figure).

Conclusion: Patients with the highest values of NT-proBNP, but not hsCRP have significantly greater risk of new-onset AF post-MI. Elevated BNP was a more potent predictor of new AF than any clinical parameters suggesting that markers for atrial stretch and not markers for inflammation may be important in the pathogenesis of AF in MI.